Assessment Criteria

The review team will use the following criteria as a basis for conducting its assessment, based on NPD 7120.5C, Appendix H, Table H-1, and Policy Letter NM7120-40, NASA Interim Directive to NPR 7120.5C, dated March 6, 2006:

Alignment with and contributing to the Agency vision and strategic goals

1. Is there a clear, consistent and appropriate flow of requirements from the Agency's goals, objectives and approved architectures through the program requirements to the project's requirements?
2. Are the requirements clear enough throughout the flow with sufficient clarity that the program and project can meet the Agency's needs without requiring program and/or project interpretation?
3. Are the program and/or project requirements verifiable?
4. Have utilization of Agency corporate capital resources, e.g., thermal-vacuum chambers or wind tunnels, been considered and properly vetted in formulation of the program and/or project?

Adequacy/availability of resources

1. Do the program and/or project have sufficient financial resources (including phased life-cycle budgets) to meet their requirements with a 70% probability of success? Are there adequate reserves consistent with the technical difficulty of the program and project?
2. Is the necessary workforce with the proper skills available to accomplish the program and/or project tasks?
3. Are the necessary facilities and equipment available to accomplish the program and/or project tasks or have they been planned and funded as part of the program/project?
4. Are there adequate natural resources and materials available to accomplish the program and/or project tasks?

Adequacy of schedule and schedule management planning

1. Is the schedule adequate given the technical challenges of the program and/or project and has adequate schedule margin been included to ensure delivery of the product(s) as committed?
2. Does the project have an integrated master schedule and appropriate schedule management processes to ensure that all elements of the project are integrated and that delivery of hardware, software and data is accomplished as needed across project elements?
3. Does the schedule allow for planned technology developments and recovery from identified risks?
4. Has the program and/or project met its schedule commitments sufficiently to pass to the next phase of development?

Adequacy of technical approach and technical management planning

1. What is the adequacy, maturity, flexibility, achievability and risk of the design of the mission including choice of ELV, trajectory and cruise, communication and tracking

network(s), mission orbit, data acquisition and downlink, operational timeline and plans; and mission operations?

2. What is the adequacy, maturity, flight heritage, flexibility, soundness and risk of the proposed flight system design approach and can the scientific and technical objectives be achieved? Are the major design issues and system trades (as well as the processes) for their resolution adequately identified? Are there adequate margins for technical performance parameters?
3. Is the integrated test and verification program logical and complete? Do they plan to test as you fly; fly as you test? If not, are additional measures in place to ensure mission success?
4. Are technology developments for the flight and ground systems and their risks well understood and manageable? Will technologies be at the appropriate level of readiness by PDR?
5. Are processes to enhance mission success (redundancy management, configuration management, reliability analysis, failure analysis, fault protection, etc.) planned?
6. Is the management structure and organizational hierarchy appropriate and are the management processes adequate to assure successful implementation of mission requirements? Are the appropriate management documents adequate and in place?
7. Are the procurement approaches adequate and appropriate, including subcontractor management?
8. Does the team, including contractors, have adequate experience and expertise to accomplish the stated objectives?
9. Are the Program and/or project in compliance with NPD 7120.5C and at an overall maturity level necessary to be approved to enter the next phase of development?

Adequacy of risk identification, mitigation and management planning

1. Is the approach to risk analysis, management and mitigation adequate? Have all areas of risk and risk mitigation strategies been identified? If not, what are they?
2. Has a minimum performance floor been identified with prioritized descope options that are technically and programmatically sound?

Adequacy of Performance Measurement Baseline

1. Is all work scope for the project from Confirmation to launch planned out at an appropriate level of detail for measurement of performance?
    a. Are cost estimates at an appropriate level of detail, and do they cover the full scope of the project?
    b. Is scheduling at an appropriate level of detail, and do they cover the full scope of the project?
    c. Have the right milestones/deliverables been identified for tracking, covering the full scope of the project?
2. Is the project work scope broken down into finite pieces that can be assigned to a responsible person or organization for control of technical, schedule, and cost objectives, to the extent practical?
    a. Are the organizations or persons responsible for accomplishment of milestones/deliverables identified?

    b. Do these organizations or individuals have the ability to track cost and schedule for accomplishment of their milestones/deliverables?
3. Are project work scope, schedule, and cost objectives integrated into a performance measurement baseline plan against which accomplishments may be measured, and is there a defined process for controlling changes to the baseline?
    a. Can detailed cost estimates (item 1a) be linked to the milestones/deliverables identified?
    b. Can elements of the detailed schedule (item 1b) be linked to the milestones/deliverables identified?
    c. Is there a configuration control-type process for controlling changes to the baseline?
4. Will actual costs of accomplished the work be recorded at the level of planning (items 2 and 3 above), to the extent practical?
5. Will accomplishments be objectively assessed at the level of planning (items 2 and 3 above)?
6. Is there a defined process for analyzing significant variances from the plan, forecasting impacts, and preparation of an estimate at complete based on performance to date and work remaining to be performed.?
7. Is performance measurement incorporated into the project's decision-making and review processes?

Congressional Certification Criteria

In addition, the review team will assess the following as the basis for the Administrator's certification to Congress required by the FY 06 NASA Authorization Act provisions on Baselines and Cost Controls; specifically, that:

a. the technical, cost, and schedule risks of the project are clearly identified and the project has developed a plan to manage those risks;
b. the technologies required for the project have been demonstrated in a relevant laboratory or test environment; and
c. the project complies with all relevant policies, regulations, and directives of NASA.